Clean Copy of the Amended Specification (Paragraph on Page 15 at lines 6-22)

Biotinylated, synthetic oligonucleotides with dUMP replacing dTMP at one or several positions (e.g. biotin-GTAATACGACTCACTAUAGGGC; SEQ ID NO: 1) can be used for PCR and incorporated into a dsDNA product in a manner identical to dTMP containing oligonucleotides. Following PCR and binding to a solid support the internal dUMP site is a target for UDG activity. The abasic site can then be cleaved by high temperature or high pH, releasing the PCR product from the solid support. Alternatively, the non-biotinylated, complementary strand can first be released by heat denaturation, leaving the biotinylated strand immobilised to the solid support. The single stranded DNA can then be cleaved with UDG, releasing it, and allowing both strands to be separately collected and purified. This could be useful when sense and antisense strands are required for hybridisation probes or cDNA subtraction library preparation.

Clean Copy of the Amended Specification (Paragraph on Page 16 at lines 20-36)

mRNA templates, immobilised on a solid support carrying an oligo (dT) can be copied into cDNA. During this reverse transcription reaction, the cDNA produced becomes covalently bound to the solid support via the oligo (dT) primer. Release of the cDNA is therefore difficult using current methods. By incorporating dUMP into the oligo (dT) (e.g. 5'TTTTTTTTTTTTTTTTTTTTTU; SEQ ID NO: 2), a site is produced that is a target for UDG activity. Subsequent cleavage of the abasic site by high temperature or pH releases the cDNA from the solid support. Alternatively, multiple target sites can be introduced (e.g. 5'UUUUUUUUUUUUUUUUUUUUU; SEQ ID NO:3). Following reverse transcription, it may be convenient or advantageous to remove the RNA strand e.g. by RNase H or by any other means, such as high pH, prior to releasing the bound cDNA product by UDG cleavage.

Clean Copy of the Amended Specification (Paragraph on Page 32 at lines 8-13)

1. Capture, wash and prepare 1µg mRNA using Dynabeads Oligo 5' TTTTTTTTTTTTTTTTTTTTU (SEQ ID NO: 4) or

5'UUUUUUUUUUUUUUUUUUUUUUU (SEQ ID NO: 3) as described (Jakobson, K.S. et al. In Advances in Biomagnetic Separation, Ed. Uhlén, M. Eaton Publishing, (1994) pp61-71) or according to Dynal's instructions for mRNA capture.

Clean Copy of the Amended Specification (Paragraph on Page 33 at lines 8-14)

1. Carry out PCR containing one biotinylated primer with an internal dUMP such as biotin-GTAATACGACTCACTAUAGGGC (SEQ ID NO:1) and an unmodified PCR primer with a suitable template and reaction components (no changes need to be made when using a biotinylated and dUMP containing PCR primer compared with the same unmodified primer).

Clean Copy of the Amended Specification (Paragraph on Page 33 at lines 28-33)

Figure 2 shows release of radiolabelled biotinylated PCR products from M-280 streptavidin beads. bioT3U is biotin-AATTAACCCTCACUAAAGGG (SEQ ID NO:5) bioT7U is biotin-GTAATACGACTCACTAUAGGGC (SEQ ID NO: 1)
A greatly increased amount of PCR product is released in the presence of UDG than without.

Clean Copy of the Amended Specification (Paragraph on Page 34 at lines 5-7)

1. Capture, wash and prepare 1 µg mRNA using Dynabeads Oligo 5' biotin TTTTTTTTTrUTTTTTTTTT (SEQ ID NO: 6) as described (Jakobsen et al. 1994).